

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-20. (Canceled)

21. (Previously Presented) A method for purifying RNA from biological material comprising RNA, comprising:

(a) mixing said biological material with an RNA Lysing Solution, wherein the RNA Lysing Solution

(i) is buffered at a pH of greater than about 7,

(ii) comprises an amphiphilic reagent and an RNA complexing salt, wherein the RNA-complexing salt is an alkali-metal salt present at a concentration greater than about 4 M, and

(iii) is free of a strong chaotropic substance;

(b) lysing said biological material with said RNA Lysing Solution to form a lysate comprising RNA and non-nucleic acid biological matter;

(c) contacting said lysate to an immobilized non-silica solid support, wherein said RNA in said lysate preferentially binds to said solid support;

(d) washing said solid support with an RNA wash solution to remove non-nucleic acid biological matter; and

(e) preferentially eluting the bound RNA from said solid support with an RNA elution solution to obtain the RNA.

22. (Original) The method of claim 21, wherein the biological material is selected from the group consisting of crude and partially purified mixtures of nucleic acids.

23. (Previously Presented) The method of claim 21, wherein the biological material is selected from the group consisting of plant cells, mycoplasma, protozoa, bacteria, fungi, viruses, yeasts, rickettsia and homogenates thereof.

24. (Original) The method of claim 21, wherein the biological material is selected from the group consisting of whole blood, bone marrow, blood spots, blood serum, blood plasma, buffy coat preparations, saliva, cerebrospinal fluid, and solid animal tissues.

25. (Original) The method of claim 21, wherein the biological material is selected from the group consisting of feces, urine, tears, and sweat.

26. (Original) The method of claim 21, wherein the biological material is selected from the group consisting of environmental samples taken from air, water, sediment and soil.

27. (Original) The method of claim 21, wherein the non-silica solid support comprises components selected from a group consisting of cellulose, cellulose acetate, nitrocellulose, nylon, polyester, polyethersulfone, polyolefin, polyvinylidene fluoride, and combinations thereof.

28. (Original) The method of claim 21, wherein the non-silica solid support comprises a polyester.

29. (Original) The method of claim 21, wherein the immobilized non-silica solid support comprises combinations of polyesters.

30. (Previously Presented) The method of claim 21, wherein the solid support is contained in a vessel.

31. (Previously Presented) The method of claim 21, wherein the RNA Lysing Solution is free of guanidinium salts and urea.

32. (Previously Presented) The method of claim 21, wherein the RNA is selected from the group consisting of messenger RNA, transfer RNA, ribosomal RNA and viral RNA, and combinations thereof.

33. (Canceled)

34. (Previously Presented) The method of claim 21, wherein the alkali-metal salt is chosen from the group consisting of sodium, potassium, lithium, cesium, and rubidium salts.

35. (Previously Presented) The method of claim 34, wherein the alkali-metal salt is a lithium salt.

36. (Previously Presented) The method of claim 35, wherein the alkali-metal salt is lithium chloride.

37. (Canceled)

38. (Previously Presented) The method of claim 21, wherein the alkali-metal salt is present at a concentration of between 4 - 10 M.

39. (Previously Presented) The method of claim 21, wherein the amphiphilic reagent is a detergent.

40. (Previously Presented) The method of claim 39, wherein the detergent is a non-ionic detergent.

41. (Original) The method of claim 40, wherein the nonionic detergent is selected from the group consisting of tweens, tritons, nomodets, and tergitols.

42. (Previously Presented) The method of claim 21, wherein the RNA Lysing Solution comprises a chelating agent.

43. (Original) The method of claim 42, wherein the chelating agent is selected from the group consisting of EDTA and CDTA.

44. (Canceled)

45. (Previously Presented) A method for purifying RNA from biological material, comprising:

(a) contacting a biological material containing RNA with a solid support pre-treated with an RNA Lysing Solution to release RNA and non-nucleic acid biological matter and cause the released RNA to preferentially bind to said solid support, wherein the RNA Lysing Solution

(i) is buffered at a pH of greater than about 7,

(ii) is bound to the solid support,

(iii) comprises an amphiphilic reagent and an RNA-complexing salt, wherein the RNA-complexing salt is an alkali-metal salt present at a concentration greater than about 4 M, and

(iv) is free of a strong chaotropic substance;

(b) washing said solid support with an RNA wash solution to remove the non-nucleic acid biological materials; and

(c) preferentially eluting the bound RNA from said solid support with an RNA elution solution to obtain the RNA.

46. (Previously Presented) The method of claim 21, wherein the RNA that is purified is substantially undegraded RNA.

47. (Previously Presented) The method of claim 30, wherein the vessel is a centrifuge tube, spin tube, syringe, cartridge, chamber, multiple-well plate or test tube.

48. (Previously Presented) The method of claim 21, wherein the biological material is selected from the group consisting of crude and partially purified mixtures of nucleic acids.

49. (Previously Presented) The method of claim 45, wherein the biological material is selected from the group consisting of plant cells, mycoplasma, protozoa, bacteria, fungi, viruses, yeasts, rickettsia and homogenates thereof.

50. (Previously Presented) The method of claim 45, wherein the biological material is selected from the group consisting of whole blood, bone marrow, blood spots, blood serum, blood plasma, buffy coat preparations, saliva, cerebrospinal fluid, and solid animal tissues.

51. (Previously Presented) The method of claim 45, wherein the biological material is selected from the group consisting of feces, urine, tears, and sweat.

52. (Previously Presented) The method of claim 45, wherein the biological material is selected from the group consisting of environmental samples taken from air, water, sediment and soil.

53. (Previously Presented) The method of claim 45, wherein the solid support is a non-silica solid support.

54. (Previously Presented) The method of claim 53, wherein the non-silica solid support comprises components selected from the group consisting of cellulose, cellulose acetate, nitrocellulose, nylon, polyester, polyethersulfone, polyolefin, polyvinylidene fluoride, and combinations thereof.

55. (Previously Presented) The method of claim 53, wherein the non-silica solid support comprises a polyester.

56. (Previously Presented) The method of claim 45, wherein the immobilized non-silica solid support comprises combinations of polyesters.

57. (Previously Presented) The method of claim 45, wherein the solid support is contained in a vessel.

58. (Previously Presented) The method of claim 45, wherein the RNA Lysing Solution is free of guanidinium salts and urea.

59. (Previously Presented) The method of claim 45, wherein the RNA is selected from the group consisting of messenger RNA, transfer RNA, ribosomal RNA and viral RNA, and combinations thereof.

60. (Canceled)

61. (Previously Presented) The method of claim 45, wherein the alkali-metal salt is chosen from the group consisting of sodium, potassium, lithium, cesium, and rubidium salts.

62. (Previously Presented) The method of claim 61, wherein the alkali-metal salt is a lithium salt.

63. (Previously Presented) The method of claim 62, wherein the alkali-metal salt is lithium chloride.

64. (Canceled)

65. (Previously Presented) The method of claim 45, wherein the alkali-metal salt is present at a concentration of between 4 - 10 M.

66. (Previously Presented) The method of claim 45, wherein the amphiphilic reagent is a detergent.

67. (Previously Presented) The method of claim 45, wherein the detergent is a non-ionic detergent.

68. (Previously Presented) The method of claim 67, wherein the non-ionic detergent is selected from the group consisting of tweens, tritons, nonidet, and tergitols.

69. (Previously Presented) The method of claim 45, wherein the RNA Lysing Solution comprises a chelating agent.

70. (Previously Presented) The method of claim 69, wherein the chelating agent is selected from the group consisting of EDTA and CDTA.

71. (Previously Presented) The method of claim 45, wherein the RNA that is purified is substantially undegraded RNA.